



Forte™ for Java™ 4, Mobile Edition Getting Started Guide

Forte for Java 4

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Before You Begin

This document provides installation instructions for the Forte™ for Java™ 4, Mobile Edition integrated development environment (IDE). Topics covered include:

- Overview of the installation steps
- System requirements
- Supported platforms
- Installation of Java 2 Platform, Standard Edition (J2SE™), v. 1.4.0
- Contents of top-level directories of the IDE
- Registering with Forte for Java Developer Resources
- Updating modules with the Update Center
- Uninstalling the IDE
- Using the startup command-line switches
- Other documentation resources

This document instructs you to enter several commands at the command line. Command lines vary slightly from one platform to another. For example, a Microsoft Windows command might look like this:

```
c:\>cd MyWorkDir\MyPackage
```

To translate for UNIX® or Linux environments, simply change the prompt and use forward slashes:

```
% cd MyWorkDir/MyPackage
```

Before You Read This Book

Before you continue with the rest of this guide, you should be familiar with the process of installing and uninstalling software products on the platforms you choose to use with this release of the Forte for Java 4 product. You need familiarity with some system administrative commands, such as:

- `patchadd`, `pkgadd`, `patchrm`, and `pkgrm` utilities in the Solaris™ operating environment
- Add/Remove Program utility on the Microsoft Windows systems
- `rpm` command in the Red Hat Linux environment

If you are unfamiliar with or unsure about the system administrative commands for your environment or system, contact your system administrator for assistance with the instructions contained in this guide.

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How This Book Is Organized

Chapter 1 gives an overview of the general installation process and information on system requirements for Forte for Java 4, Mobile Edition.

Chapter 2 provides instructions on installing the J2SE, v. 1.4.0 platform on your system.

Chapter 3 describes the steps to install the Mobile Edition IDE on the supported platforms. The subdirectories installed with the IDE are described and uninstallation instructions are also provided.

Chapter 4 gives instructions on how to start and set up the newly installed Mobile Edition IDE. The command-line options are provided and information about product registration is also included.

Chapter 5 describes steps to update the IDE modules using the Forte for Java Update Center. Information about other documentation resources are also included in this chapter.

Chapter 6 provides you with some troubleshooting hints to assist you with problems you might encounter during the installation and setup process.

Appendix A lists the patches for the Solaris 8 operating environment that are included with the Solaris patch installer for the Solaris operating environment (SPARC™ platform).

Typographic Conventions

Typeface	Meaning	Examples
AaBbCc123	The names of commands, files, and directories; on-screen computer output	Edit your <code>.login</code> file. Use <code>ls -a</code> to list all files. % You have mail.
AaBbCc123	What you type, when contrasted with on-screen computer output	% su Password:
<i>AaBbCc123</i>	Book titles, new words or terms, words to be emphasized	Read Chapter 6 in the <i>User's Guide</i> . These are called <i>class</i> options. You <i>must</i> be superuser to do this.
<code>AaBbCc123</code>	Command-line variable; replace with a real name or value	To delete a file, type <code>rm filename</code> .

Related Documentation

Forte for Java 4 documentation includes books delivered in Acrobat Reader (PDF) format, online help, readme files of example applications, and Javadoc™ documentation.

Documentation Available Online

The documents in this section are available from the Forte for Java Developer Resources (or Sun™ ONE Studio Developer Resources) portal and the docs.sun.comSM web site.

The documentation link of the Forte for Java Developer Resources portal is at <http://forte.sun.com/ffj/documentation/>, or can be accessed by selecting Documentation in the Help menu of the IDE. The docs.sun.com web site is at <http://docs.sun.com>.

- Release notes (HTML format)

Available for each Forte for Java 4 edition. Describe last-minute release changes and technical notes.

- *Forte for Java 4, Mobile Edition Getting Started Guide* (PDF format) - part no. 816-4338-10.

Describes how to install the Forte for Java 4 product on each supported platform and includes other pertinent information, such as system requirements, upgrade instructions, command-line switches, installed subdirectories, Javadoc setup, and information on how to use the Update Center.

- *Forte for Java 4, Mobile Edition Tutorial* - part no. 816-5081-10

Provides step-by-step instructions for building a simple MIDP/CLDC application using Forte for Java 4, Mobile Edition tools.

You can also find the completed tutorial applications at <http://forte.sun.com/ffj/documentation/tutorialsandexamples.html>

The docs.sun.com web site (<http://docs.sun.com>) enables you to read, print, and buy Sun Microsystems manuals through the Internet. If you cannot find a manual, see the documentation index installed with the product on your local system or network.

Online Help

Online help is available inside the Forte for Java 4 development environment. You can access help by pressing the help key (Help in a Solaris environment, F1 on Microsoft Windows and Linux), or by choosing Help → Contents. Either action displays a list of help topics and a search facility.

Examples

You can download several examples that illustrate a particular Forte for Java 4 feature, as well as completed tutorial applications from the Developer Resources portal, at

<http://forte.sun.com/ffj/documentation/tutorialsandexamples.html>

Javadoc Documentation

Javadoc documentation is available within the IDE for many Forte for Java 4 modules. Refer to the release notes for instructions on installing this documentation. When you start the IDE, you can access this Javadoc documentation within the Javadoc pane of the Explorer.



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Preparing for Installation

This chapter contains information needed to prepare for the installation of the Forte for Java 4, Mobile Edition IDE (hereafter referred to as “Mobile Edition IDE”).

Overview of the Installation

The following steps outline the general process of installing the Mobile Edition IDE on your system. This process includes the validation, customization, and registration of your Mobile Edition IDE installation:

1. Verify that you have local or network access to either the Java 2 Platform, Standard Edition, v. 1.3.1 (hereafter referred to as “J2SE, v. 1.3.1 platform”) or the Java 2 Platform, Standard Edition, v. 1.4.0 (hereafter referred to as “J2SE, v. 1.4.0 platform”) from the system in which you plan to install the Mobile Edition IDE.

Note – The recommended option is the J2SE, v. 1.4.0 platform with the Mobile Edition IDE. Read Chapter 2 for detailed installation instructions.

2. Verify that the system on which you are installing the Forte for Java 4 software meets the minimum system requirements. See “System Requirements” on page 3 for more information.
3. Determine which software you want the Mobile Edition IDE installer to install. The Forte for Java 4, Mobile Edition installer includes the following software:
 - Core Platform and Modules
 - J2ME™ Wireless Toolkit 1.0.3

4. Determine if you want to keep your previous version of the Mobile Edition IDE. If you do, identify a different directory in which to install the Forte for Java 4, Mobile Edition.

If you want to use the same installation directory as the previous IDE version, you must first uninstall the previous version of the IDE prior to installing Forte for Java 4, Mobile Edition.

5. Determine whether you want to keep your current Mobile Edition IDE user settings. If you decide to use your current user settings with the new IDE version, you need to specify the location of your current user directory when prompted during the initial IDE setup. Read Chapter 4 for more information.

Note – Because the Community and Enterprise Edition IDEs include several modules not supported by Mobile Edition IDE, Sun does not recommend using previous settings from the Community and Enterprise Edition IDEs with the Mobile Edition IDE.

6. Install Forte for Java 4, Mobile Edition. Read Chapter 3 for detailed installation instructions for each of the supported platforms.
7. Set up your initial IDE environment and register the product. Read Chapter 4 for instructions on setting up your user directory and registering the product.

Supported Platforms

The following lists the platforms upon which the Forte for Java 4, Mobile Edition has been tested. The platforms upon which the J2ME Wireless Toolkit has been tested are also listed.

Note – The platforms supported by the Mobile Edition might differ from those supported by the emulator you plan to use. You should verify that both the Mobile Edition and the emulator you plan to use are supported on your particular platform.

Forte for Java 4, Mobile Edition has been tested with the following systems:

- Microsoft Windows 2000 Professional system (Service Pack 2)
- Microsoft Windows XP Professional
- Red Hat Linux 7.2
- Solaris 8 operating environment (64-bit, SPARC platform)
- Solaris 9 operating environment (64-bit, SPARC platform)

This release has been tested on a limited basis on the following systems:

- Microsoft Windows NT4, SP6 systems
- Solaris 8 operating environment (32-bit, SPARC platform)
- Solaris 9 operating environment (32-bit, SPARC platform)

The J2ME, Wireless Toolkit 1.0.3 has been tested with the following systems:

- Microsoft Windows 98 Second Edition
- Microsoft Windows NT 4.0 systems
- Microsoft Windows 2000 systems

The J2ME, Wireless Toolkit 1.0.3 has been tested on a limited basis with the following, unsupported systems:

- Solaris 8 operating environment
- Red Hat Linux 6.2
- Red Hat Linux 7.1

System Requirements

TABLE 1-1 lists the system requirements needed to install a minimum configuration on any of the supported platforms.

TABLE 1-1 Forte for Java 4, Mobile Edition System Requirements

Mobile Edition Supported Platforms¹	Free Hard Disk Space Required for Installation	Minimum Configuration
Windows 2000, Windows XP Professional, Windows NT4, SP6 ²	100 MB	Pentium III, 350 MHz, 128 MB RAM
Red Hat Linux 7.2	100 MB	Pentium III 350 Mhz, 128 MB RAM
Solaris 8, Solaris 9 operating environments (64-bit and 32-bit, SPARC platforms)	100 MB	Ultra 10, 333 MHz, 128 MB RAM

1. The J2ME Wireless toolkit might not be supported on all platforms listed in this table.

2. This release has been tested on a limited basis on the Microsoft Windows NT4 SP6 systems, and the Solaris 8 and Solaris 9 (32-bit, SPARC platform) environments

These are general guidelines. Your requirements might vary depending on which additional software you have installed for use with the Mobile Edition IDE.

Installing the J2SE, v. 1.4.0 Platform

This chapter gives instructions for verifying the version of the J2SE platform to which you currently have access. If you need to install the J2SE, v. 1.4.0 platform on your system, this chapter also gives step-by-step instructions for installing the software on all the supported platforms. The J2SE, v. 1.4.0 platform includes the Java 2 Software Development Kit, Standard Edition (Java 2 SDK) and the Java 2 Runtime Environment, Standard Edition (JRE).

Verifying Your J2SE Platform Version

To use the Mobile Edition IDE, you must have one of the following:

- J2SE, v. 1.3.1 or J2SE, v. 1.4.0 platform installed on your system
- Network access to the path in which v. 1.3.1 or v. 1.4.0 of the J2SE platform is installed

If you run the Mobile Edition IDE without v. 1.3.1 or v. 1.4.0 of the J2SE platform installed or available, you get error and warning messages. Version 1.4.0 is preferred.

Note – To maximize runtime performance, the J2SE platform should be installed on and accessed from your local system.

Use the following steps to help you determine what you need to do next:

1. Identify which Java software is available to your system.

On a Microsoft Windows system, type the following in a command prompt window:

```
C:\>java -version
```

The output looks similar to the following:

```
C:\>java -version
java version "1.4.0"
Java(TM) 2 Runtime Environment, Standard Edition (build 1.4.0-b92)
Java HotSpot(TM) Client VM (build 1.4.0-b92, mixed mode)
```

In a Solaris or Linux environment, type the following:

```
% java -version
```

The output looks similar to the following:

```
% java -version
java version "1.4.0"
Java(TM) 2 Runtime Environment, Standard Edition (build 1.4.0-b92)
Java HotSpot(TM) Client VM (build 1.4.0-b92, mixed mode)
```

If you do not have v. 1.3.1 or v. 1.4.0 of the J2SE platform available to your system, you must install the supported J2SE, v. 1.4.0 platform.

2. If you do not have v. 1.3.1 or v. 1.4.0 of the J2SE platform available to your system, do the following:

a. Obtain the J2SE, v. 1.4.0 installer from

<http://www.sun.com/software/sundev/jde/buy/index.html> **or from the Forte for Java 4 product CD.**

b. Install the J2SE, v. 1.4.0 platform on your system.

Read the section following for additional instructions for your specific system.

3. (Solaris only) If the J2SE, v. 1.4.0 platform is already installed on your system, install any Solaris patches that are applicable to your Solaris 8 operating environment.

If you do not have the required Solaris patches when you start the Mobile Edition IDE, you receive a message that includes the Solaris patches you need to install on your system. Install the patches on your system or contact your system administrator before proceeding to use the Mobile Edition IDE.

The `solaris_patch_installer`, provided with the Forte for Java 4 CD and also available from the Forte for Java 4 product download page, includes the Solaris patch packages you need to install in your Solaris 8 operating environment.

If you have previously installed the J2SE, v. 1.4.0 platform, you can use the `solaris_patch_installer` to determine if all the necessary Solaris patches are already installed in your system.

“Installing Patches in a Solaris 8 Operating Environment” on page 12 provides you with instructions on how to use the `solaris_patch_installer` script.

Note – For a complete list of the Solaris patches included with the `solaris_patch_installer` script, see Appendix A.

Installing the J2SE Platform on Microsoft Windows Systems

Note – If you are unfamiliar with or unsure about installing the J2SE, v. 1.4.0 platform on your Microsoft Windows system, contact your system administrator for assistance.

To install the J2SE, v. 1.4.0 platform on your supported Microsoft Windows system, follow these steps:

1. **If you have not already done so, download the `j2sdk-1_4_0-win.exe` installer file from <http://www.sun.com/software/sundev/jde/buy/index.html> into *j2se-directory* or locate the installer on the Forte for Java 4 CD.**

Note – Ensure that the *j2se-directory*, in which you download the software, is located on a disk that has plenty of available space.

Use the following information if you are accessing the installer file from the download page for the J2SE, v. 1.4.0 platform. Otherwise, proceed to Step 2.

- a. **In the “Before You Download” section of the <http://www.sun.com/software/sundev/jde/buy/index.html> download page, click “Java 2 Platform, Standard Edition, v. 1.4.0” to download the installer file for the J2SE, v. 1.4.0 platform.**

The Java 2 Platform, Standard Edition, v. 1.4.0 Overview page is displayed.

b. Click “Download J2SE v. 1.4 Now!”

The Java 2 Platform, Standard Edition download page is displayed.

c. From the SDK column of the Download J2SE, v. 1.4.0 table, click DOWNLOAD for Windows (all languages, including English).

The binary code license agreement is displayed.

d. Read the binary code license agreement carefully. To proceed, accept the terms of the license agreement.

You must agree to the license to continue with the download. Once you have agreed to the license agreement, the download page is displayed.

e. Click Download `j2sdk-1_4_0-win.exe` to proceed with the download of the file and specify where you want to save the file.

f. Verify that the size of the downloaded file is the same as the file size indicated on the download page.

This step ensures that you have downloaded the full and uncorrupted software bundle.

2. Uninstall any prerelease versions of the J2SE, v. 1.4.0 platform currently installed on your system.

If you have previously installed a Beta release or the Release Candidate version of the J2SE, v. 1.4.0 platform, uninstall it. Use the Microsoft Windows Add/Remove Programs utility to uninstall the previous release of the J2SE, v. 1.4.0 platform. Choose Start → Settings → Control Panel to access the utility.

3. Start the installation wizard by double-clicking the `j2sdk-1_4_0-win.exe` file in the *j2se-directory* or from the Forte for Java 4 product CD.

Note – You must have administrative permissions to install the J2SE, v. 1.4.0 platform in a Windows XP or Windows 2000 system.

4. Follow the instructions on the wizard panes to complete the J2SE, v. 1.4.0 platform installation on your Microsoft Windows system.

5. (Optional) Delete the downloaded file from the *j2se-directory* to recover disk space.

Continue to Chapter 3 for instructions on installing the Forte for Java 4 software.

Installing the J2SE Platform in the Red Hat Linux Environment

Note – If you are unfamiliar with or unsure about installing the J2SE, v. 1.4.0 platform in your Red Hat Linux environment, contact your system administrator for assistance.

To install the J2SE, v. 1.4.0 platform in your supported Red Hat Linux environment, follow these steps:

1. **If you have not already done so, download the `j2sdk-1_4_0-linux-i386-rpm.bin` file into *j2se-directory* or locate the file on the Forte for Java 4 product CD.**

Note – Ensure that the *j2se-directory*, in which you download the software, is located on a disk that has plenty of available space.

Use the following information if you are accessing the installer file from the download page for the J2SE, v. 1.4.0 platform. Otherwise, proceed to Step 2.

- a. **In the “Before You Download” section of the <http://www.sun.com/software/sundev/jde/buy/index.html> download page, click Java 2 Platform, Standard Edition, v. 1.4.0 to download the installer file for the J2SE, v. 1.4.0 platform.**
The Java 2 Platform, Standard Edition, v. 1.4.0 Overview page is displayed.
- b. **Click “Download J2SE v. 1.4 Now!”**
The Java 2 Platform, Standard Edition download page is displayed.
- c. **From the SDK column of the Download J2SE, v. 1.4.0 table, click DOWNLOAD for Linux Red Hat.**
The binary code license agreement is displayed.
- d. **Read the binary code license agreement carefully. To proceed, accept the terms of the license agreement.**
You must agree to the license to continue with the download. Once you have agreed to the license agreement, the download page is displayed.
- e. **Click Download `j2sdk-1_4_0-linux-i386-rpm.bin` and specify the directory, *j2se-directory*, where you want to save the file.**

- f. Verify that the size of the downloaded file is the same as the file size indicated on the download page.

This step ensures that you have downloaded the full and uncorrupted software bundle.

2. Double-click the `j2sdk-1_4_0-linux-i386-rpm.bin` file on the Forte for Java 4 product CD or type the following commands:

```
$ cd j2se-directory
$ chmod a+x j2sdk-1_4_0-linux-i386-rpm.bin
$ j2sdk-1_4_0-linux-i386-rpm.bin
```

The script displays the binary license agreement.

3. Read the binary license agreement carefully. To proceed, accept the terms of the license agreement.

You must agree to the license to continue with the installation.

Once you have agreed to the license agreement, the install script creates the `j2sdk-1_4_0-linux-i386-rpm` file in the current directory.

4. Become a superuser (root) by typing the following in a terminal window:

```
$ su
Password: root-password
```

5. Uninstall any prerelease versions of the J2SE, v. 1.4.0 platform currently installed on your system.

If you have previously installed a Beta release or the Release Candidate version of the J2SE, v. 1.4.0 platform, uninstall it.

Note – The default installation location for the prerelease versions of the J2SE platform is `/usr/java/j2sdk1.4.0`. That is the same location in which the RPM package of the final version of the J2SE, v. 1.4.0 platform is installed. To clear the way for installation of the final version of the J2SE, v. 1.4.0 platform, you must first uninstall any of these previous releases that you have installed. Skip this step if you have not installed any of these previous releases.

If you are not sure if you have a prerelease version installed in your system, run the following command:

```
# rpm -query -a | grep j2sdk-1.4.0
```

The output displays the RPM package name of the prerelease version of the J2SE, v. 1.4.0 platform. For example, if the J2SE 1.4.0 Beta 3 version is installed, the command returns the RPM package name for Beta 3, which is `j2sdk-1.4.0-beta3`.

If you determine that a Beta package is installed, uninstall it using the `rpm` command. For example, to remove the Beta 3 version of the J2SE, v. 1.4.0 platform, type the following:

```
# rpm -e j2sdk-1.4.0-beta3
```

6. Run the `rpm` command to install the package for the J2SE, v. 1.4.0 platform by typing the following:

```
# cd j2se-directory  
# rpm -iv j2sdk-1.4.0-linux-i386.rpm
```

The packages for the J2SE, v. 1.4.0 platform are installed in `/usr/java/j2sdk1.4.0`.

7. Exit from your superuser privileges by typing:

```
# exit
```

Continue to Chapter 3 for instructions on installing the Forte for Java 4 software.

Installing the J2SE Platform in the Solaris Operating Environment

You must first install any Solaris patches required in your Solaris 8 operating environment (SPARC platform) before proceeding with the installation of the J2SE, v. 1.4.0 platform. Use the steps in the next section to guide you in the installation of the Solaris patches and the J2SE, v. 1.4.0 platform.

Note – The Solaris 9 environment is preconfigured with the J2SE, v. 1.4.0 platform. It is not necessary to add the J2SE, v. 1.4.0 platform unless it was explicitly removed from your Solaris 9 environment.

Installing Patches in a Solaris 8 Operating Environment

Note – If you are unfamiliar with or unsure about installing Solaris patches in your Solaris environment, contact your Solaris system administrator for assistance.

These instructions describe how to install the necessary Solaris patches prior to the installation of the J2SE, v. 1.4.0 platform. These instructions are applicable only in a Solaris 8 operating environment. Refer to Appendix A for a list of the Solaris patches included with the `solaris_patch_installer`.

1. **If you have not already done so, download the `solaris_patch_installer.tar.gz` file into the `solaris-patches-directory` from <http://www.sun.com/software/sundev/jde/buy/index.html> or from the Forte for Java 4 CD.**

Note – Ensure that the `solaris-patches-directory`, in which you download the software, is located on a disk that has plenty of available space.

2. From the *solaris-patches-directory*, uncompress and extract the contents of the downloaded file by typing:

```
% cd solaris-patches-directory
% gzcat solaris_patch_installer.tar.gz | tar xvf -
```

Note – The `gzcat` utility can be found in the `/usr/bin` directory in the Solaris 8 operating environment.

The `solaris_patch_installer` file and the `patches` directory are extracted in the *solaris-patches-directory*. The `patches` directory contains several subdirectories for each of the required Solaris patches.

3. (Optional) To recover disk space, remove the downloaded file by typing:

```
% rm -rf solaris_patch_installer.tar.gz
```

4. Become a superuser (root) by typing the following in a terminal window:

```
% su
Password: root-password
```

5. Go to the *solaris-patches-directory* and run the `solaris_patch_installer` script:

```
# cd solaris-patches-directory
# ./solaris_patch_installer
```

The `solaris_patch_installer` determines which patches needed for the installation of the J2SE, v. 1.4.0 platform have already been applied and which patches still need to be installed.

You see output similar to the following:

```
# ./solaris_patch_installer
Solaris Patch Installer for J2SE, v.1.4.0
Installing 109147-14...already applied

Installing 108434-06...successfully installed

Installing 108435-06...successfully installed

Installing 111293-04...attempting to patch a package that is not
installed

Installing 112334-01...already applied
```

- 6. (Optional) After the patch installation is complete, look at the `/var/tmp/solaris_patch_installer.log` file for more details about the installation.**

Note – Some Solaris patches require that you reboot your system after installation has completed. The installer prompts you to reboot, if necessary.

- 7. When prompted, reboot your system by typing `y`:**

```
# Certain patches installed on your system require that you reboot
your machine.
Do you want to REBOOT your machine now? (y/n)
```

- 8. If you are not prompted to reboot, exit from your superuser privileges by typing:**

```
# exit
```

- 9. (Optional) After you log back on to your system, remove the `solaris-patches-directory` and its contents to recover disk space. Type the following:**

```
% rm -rf solaris-patches-directory
```


Installing the J2SE, v. 1.4.0 Platform in a Solaris 8 Environment

Note – If you are unfamiliar with or unsure about installing Solaris packages or the J2SE, v. 1.4.0 platform in your Solaris environment, contact your Solaris system administrator for assistance.

Prior to installing the J2SE, v. 1.4.0 platform, you must ensure that you have installed the full set of required patches needed to support v. 1.4.0 of the J2SE platform in your Solaris 8 environment. See “Installing Patches in a Solaris 8 Operating Environment” on page 12 for more information.

To install the 64-bit J2SE, v. 1.4.0 platform in your 64-bit Solaris 8 environment, you must follow a two-step procedure:

1. Install the 32-bit J2SE, v. 1.4.0 platform in your 64-bit Solaris 8 environment.

Use the instructions in “Installing the J2SE, v. 1.4.0 Platform in a 32-bit Solaris 8 Environment” on page 15 for more information.

2. Install the J2SE, v. 1.4.0 supplemental release for 64-bit operation in your 64-bit Solaris 8 environment.

Use the instructions in “Installing the J2SE, v. 1.4.0 Supplemental Release for 64-bit Operation in a Solaris 8 Environment” on page 18 for more information.

Installing the J2SE, v. 1.4.0 Platform in a 32-bit Solaris 8 Environment

Note – If you are unfamiliar with or unsure about installing Solaris packages or the J2SE, v. 1.4.0 platform in your Solaris environment, contact your Solaris system administrator for assistance.

Follow these steps to install the J2SE, v. 1.4.0 platform in your supported Solaris operating environment using the `pkgadd` command:

- 1. If you have not already done so, download the `j2sdk-1_4_0-solsparc.tar.Z` file into the `j2se-directory`. You can also obtain the file from the Forte for Java 4 product CD.**

Note – Ensure that the *j2se-directory*, in which you download the software, is located on a disk that has plenty of available space.

If you are accessing the installer file from the Forte for Java 4 product CD, skip to Step e.

a. In the “Before You Download” section of the

<http://www.sun.com/software/sundev/jde/buy/index.html> **download page, click Java 2 Platform, Standard Edition, v. 1.4.0 to download the installer file for the J2SE, v. 1.4.0 platform.**

The Java 2 Platform, Standard Edition, v. 1.4.0 Overview page is displayed.

b. Click “Download J2SE v. 1.4 Now!”

The Java 2 Platform, Standard Edition download page is displayed.

c. From the SDK column of the Download J2SE, v. 1.4.0 table, click DOWNLOAD for Solaris SPARC 32-bit tar.Z.

The binary code license agreement is displayed.

d. Read the binary code license agreement carefully. To proceed, accept the terms of the license agreement.

You must agree to the license to continue with the download. Once you have agreed to the license agreement, the download page is displayed.

e. Click Download `j2sdk-1_4_0-solsparc.tar.Z` from the product download page or obtain the file from the Forte for Java 4 product CD, and save the file to the *j2se-directory*.

f. Verify that the size of the downloaded file is the same as the file size indicated on the download page or from the Forte for Java 4 product CD.

This ensures that you have downloaded the full and uncorrupted software bundle.

2. From the *j2se-directory*, uncompress and extract the contents of the downloaded installer file by typing the following at the command line:

```
% cd j2se-directory
% zcat j2sdk-1_4_0-solsparc.tar.Z | tar xvf -
```

This action creates several packages (SUNWj3dmo, SUNWj3dev, SUNWj3man, SUNWj3rt, plus SUNWj3jmp for Japanese man pages) along with the product license, readme file, and other release documentation.

3. Become a superuser (root) by typing the following in a terminal window:

```
% su
Password: root-password
```

4. Uninstall your previous installation of the J2SE platform, if needed.

Note – The default installation location for versions 1.3.0, 1.3.1, and the previous 1.4.0 Beta release of the J2SE platform is `/usr/j2se`. That is the same location in which J2SE, v. 1.4.0 is installed. To clear the way for installation of the J2SE, v. 1.4.0 platform, you must first uninstall any of these previous releases that you have installed. Skip this step if you have not installed any of these previous releases or if you intend to install J2SE, v. 1.4.0 in a nondefault location.

If you have previously installed the packages for J2SE versions 1.3.0, 1.3.1, or 1.4.0 prereleases, remove them by using the `pkgrm` command:

```
# pkgrm SUNWj3dmo SUNWj3man SUNWj3dev SUNWj3rt
```

If you have previously installed packages `SUNWl3dv` and `SUNWl3rt` for localization support in version 1.3.0, remove them by using the following command:

```
# pkgrm SUNWl3dv SUNWl3rt
```

If you have previously installed the Japanese man page packages for the Java 2 SDK v. 1.3.0 or v. 1.3.1, remove them by using the following command:

```
# pkgrm SUNWjej3m SUNWj3m SUNWjuj3m
```

If your `/usr/java` symbolic link was pointing to the Java 2 SDK v. 1.2.2 installation at `/usr/java1.2`, you might want to update it to point to `/usr/j2se`, which is the location where the Java 2 SDK v. 1.4.0 will be installed.

5. Run the `pkgadd` command to install the packages:

```
# cd j2se-directory
# pkgadd -d . SUNWj3rt SUNWj3dev SUNWj3man SUNWj3dmo
```

The J2SE v. 1.4.0 packages are installed into `/usr/j2se`. Refer to the `pkgadd(1)` and `admin(4)` man pages for information on installing the J2SE, v. 1.4.0 in a nondefault location.

6. (Optional) Remove the `j2se-directory` to recover disk space:

```
# rm -rf j2se-directory
```

7. Exit from your superuser privileges by typing:

```
# exit
```

If you need to install the J2SE, v. 1.4.0 supplemental release platform, continue to “Installing the J2SE, v. 1.4.0 Supplemental Release for 64-bit Operation in a Solaris 8 Environment” on page 18 for more information.

Otherwise, continue to Chapter 3 for instructions on installing the Forte for Java 4 software.

Installing the J2SE, v. 1.4.0 Supplemental Release for 64-bit Operation in a Solaris 8 Environment

Note – If you are unfamiliar with or unsure about installing Solaris packages or the J2SE, v. 1.4.0 platform in your Solaris environment, contact your Solaris system administrator for assistance.

Follow these steps to install the 64-bit supplemental release of the J2SE, v. 1.4.0 platform in your Solaris 8 environment:

1. **If you have not already done so, download the `j2sdk-1_4_0-solsparcv9.tar.Z` file into the `j2se-64bit-directory`. You can also obtain the file from the Forte for Java 4 product CD.**

Note – Ensure that the *jse-64bit-directory*, in which you download the software, is located on a disk that has plenty of available space.

If you are accessing the installer file from the Forte for Java 4 product CD, skip to Step e.

a. In the “Before You Download” section of the

<http://www.sun.com/software/sundev/jde/buy/index.html> **download page, click Java 2 Platform, Standard Edition, v. 1.4.0 to download the installer file for the J2SE, v. 1.4.0 platform.**

The Java 2 Platform, Standard Edition, v. 1.4.0 Overview page is displayed.

b. Click “Download J2SE v. 1.4 Now!”

The Java 2 Platform, Standard Edition download page is displayed.

c. From the SDK column of the Download J2SE, v. 1.4.0 table, click DOWNLOAD for Solaris SPARC 64-bit tar.Z.

The binary code license agreement is displayed.

d. Read the binary code license agreement carefully. To proceed, accept the terms of the license agreement.

You must agree to the license to continue with the download. Once you have agreed to the license agreement, the download page is displayed.

e. Click Download `j2sdk-1_4_0-solsparcv9.tar.Z` from the product download page or obtain the file from the Forte for Java 4 product CD, and specify where you want to save the file.

f. Verify that the size of the downloaded file is the same as the file size indicated on the download page.

This step ensures that you have downloaded the full and uncorrupted software bundle.

2. From the *j2se-64bit-directory*, uncompress and extract the contents of the downloaded installer file by typing the following at the command line:

```
% cd j2se-64bit-directory  
% zcat j2sdk-1_4_0-solsparcv9.tar.Z | tar xvf -
```

This action creates several packages (`SUNWj3dvx`, `SUNWj3rtx`, and `SUNWj3dmx`) that contain 64-bit support for the J2SE, v. 1.4.0 platform.

3. Become a superuser (root) by typing the following in a terminal window:

```
% su
Password: root-password
```

4. Uninstall your Beta installation of the 64-bit packages for the J2SE, v.1.4.0, if needed.

If you have previously installed the Beta release of packages SUNWj3dvx, SUNWj3rtx, and SUNWj3dmx for 64-bit support, remove them using the `pkgrm` command:

```
# pkgrm SUNWj3rtx SUNWj3dvx SUNWj3dbx
```

5. Run the `pkgadd` command to install the packages:

```
# cd j2se-64bit-directory
# pkgadd -d . SUNWj3rtx SUNWj3dvx SUNWj3dmx
```

This action installs the files for 64-bit support into the J2SE v. 1.4.0 installation at `/usr/j2se`.

6. (Optional) Remove the `j2se-64bit-directory` to recover disk space:

```
# rm -rf j2se-64bit-directory
```

7. Exit from your superuser privileges by typing:

```
# exit
```

Continue to Chapter 3 for instructions on installing the Forte for Java 4 software.

Uninstalling the J2SE, v. 1.4.0 Platform

Use the following information to uninstall the J2SE, v. 1.4.0 platform:

- In a Microsoft Windows system, use the Add/Remove Programs utility in the Control Panel to uninstall the J2SE, v. 1.4.0 platform from your system.
- For a Red Hat Linux environment, use the `rpm` command to uninstall the J2SE, v. 1.4.0 platform from your system.
- For Solaris operating environments, use the `pkgrm` and `patchrm` commands to uninstall the J2SE, v. 1.4.0 platform and associated Solaris patches from your system.



Caution – Removing the J2SE, v. 1.4.0 software and related Solaris patches can cause regressive behavior on your system. Contact your Solaris system administrator if you are unfamiliar with or unsure of how to remove the Solaris, v. 1.4.0 platform and associated Solaris patches from your system.

Refer to the `pkgrm` and `patchrm` man pages for additional information on these commands.

Installing the Mobile Edition IDE

This chapter contains information on how to install Forte for Java 4, Mobile Edition on each of the supported platforms. The subdirectories installed with the IDE are described and uninstallation instructions are also provided.

If you want to use the Palm OS Emulator (included with the J2ME Wireless Toolkit) with the Mobile Edition IDE, you should install the emulator before installing the IDE. See “Configuring the Palm OS Emulator” on page 33 for more information.

Supporting Previous Forte for Java Software Releases

Although there has not been a previous release of the Mobile Edition IDE, you might be using the Early Access version of the Mobile Edition IDE, or you might be using the J2ME™ Wireless Toolkit with a previous version of Forte for Java, Community Edition or Forte for Java, Enterprise Edition.

To upgrade your previous version of the Forte for Java IDE to Forte for Java 4, Mobile Edition, you must do one of the following:

- Determine if you want to keep your previous version of the IDE. If you do, identify a different directory in which to install Mobile Edition IDE software.

If you want to use the same installation directory as the previous IDE version, you must first uninstall the previous version of the IDE prior to installing Mobile Edition IDE software.
- Determine whether you want to keep your current IDE user settings. If you decide to use your current user settings with the new IDE version, you need to specify the location of your current user directory when prompted during the initial IDE setup. Read Chapter 4 for more information.

Note – Because the Community and Enterprise Edition IDEs include several modules not supported by Mobile Edition IDE, Sun does not recommend using previous settings from the Community and Enterprise Edition IDEs with the Mobile Edition IDE.

Creating a Shared Installation

If you want to share a Forte for Java installation between multiple users, you must install the Mobile Edition IDE into a shared directory.

After installation of the IDE in the supported Solaris environment or Red Hat Linux environment, all user settings are stored in the `ffjuser40me` directory created under each user's home directory. This occurs for both shared and unshared installations.

After installation of the IDE in a Microsoft Windows system, you must set your own user directory using a dialog box that appears immediately upon initial startup of the IDE from your machine. This occurs for both shared and unshared installations.

The recommended name for the user directory in a Microsoft Windows system is *drive:fully-qualified-path\ffjuser40me*. This name is entered as the `UserDir` value of the `Software\SunMicrosystems, Inc.\Forte for Java` key in the `HKEY_CURRENT_USER` registry. This value is not deleted when the IDE is uninstalled. If the `UserDir` value is not explicitly deleted from the Microsoft Windows Registry, it will be reused by future installations of this version of the IDE. Refer to some troubleshooting information in Chapter 6, if you want to use a different location for your user directory.

Installing the Mobile Edition IDE on the Supported Platforms

These instructions describe the installation process for each of the supported platforms.

Installation on Microsoft Windows Systems

You can install the Mobile Edition IDE on a supported Microsoft Windows system through an .exe file.

Note – You must have the J2SE, v. 1.3.1 platform or J2SE, v. 1.4.0 platform installed on your system before installing the Mobile Edition IDE. The recommended option is the J2SE, v. 1.4.0 platform with the Mobile Edition IDE. Read Chapter 2 for instructions on installing the software.

1. **If you have not already done so, download the `ffj_me_win32_en.exe` installer file from <http://www.sun.com/software/sundev/jde/buy/index.html> or locate the file on the Forte for Java 4 product CD.**
2. **Double-click the `ffj_me_win32_en.exe` file in the `ffj-download-directory` or on the Forte for Java 4 product CD.**

The InstallShield's Welcome screen appears.

Note – If you encounter errors at any point during the Mobile Edition IDE installation, refer to Chapter 6 for some troubleshooting hints.

3. **In the Welcome screen, click Next.**
4. **Read the license agreement carefully. To agree, accept the terms of the license agreement, and click Next.**

You must agree to the license to continue with the installation.

InstallShield attempts to locate a compatible Java 2 SDK v. 1.3.1 or v. 1.4.0 on your system.

5. **Set the location of compatible Java 2 SDK software and click Next.**

The Mobile Edition IDE requires local or network access to either v. 1.3.1 or v. 1.4.0 of the Java 2 SDK software. Specify which installed software to use by doing one of the following:

- Accept the default location.
- Select another location from the list of found Java 2 SDK software.
- Click Browse to specify a different location.

Click Next after you have set the Java 2 SDK location.

6. **Accept the default installation folder or click Browse to install the IDE in a different directory. Click Next to continue.**

Note – The installation directory name cannot contain any spaces and it must be an empty or new directory.

7. **Click Next to confirm the features listed in the Select Features dialog box.**

The following features are required for installation:

- Core Platform and Modules
- J2ME Wireless Toolkit 1.0.3

8. **Confirm your installation choices in the installation summary dialog box and click Next.**

InstallShield installs the Forte for Java 4 components you have selected.

9. **Decide whether you want to associate .java and .nbm files with the Mobile Edition IDE. Click Next to continue.**

If you decide to associate these file types, the Mobile Edition IDE will automatically launch when you open these files.

10. **Click Finish to complete the installation.**

11. **Review the Release Notes file for important information regarding the release. You can access the Release Notes from**
<http://forte.sun.com/ffj/documentation/index.html>.

12. **Continue to Chapter 4 for information on setting up the Mobile Edition IDE.**

Installation in the Red Hat Linux Environment

You can install the Mobile Edition IDE in a supported Red Hat Linux environment with a .bin file.

Note – You must have the J2SE, v. 1.3.1 platform or J2SE, v. 1.4.0 platform installed on your system before installing the Mobile Edition IDE. The recommended option is the J2SE, v. 1.4.0 platform with the Mobile Edition IDE. Read Chapter 2 for instructions on installing the software.

1. **If you have not already done so, download the `ffj_me_linux_en.bin` installer file from <http://www.sun.com/software/sundev/jde/buy/index.html> or locate the file on the Forte for Java 4 product CD.**

If you are downloading the file from the product download page, save it into the *ffj-download-directory*.

2. Set the DISPLAY environment variable to display to your local system.

If you are installing to your local system, the DISPLAY environment variable should be set to :0.0. If you are using a superuser (root) account or are doing a remote installation, set your superuser session's DISPLAY environment variable to display to your local system.

For example, to set the variable from a root account running C-shell, type the following in your superuser session command prompt:

```
# setenv DISPLAY your-local-system:0.0
```

3. Set the execute permission on the ffj_me_linux_en.bin file and execute it by double-clicking the file from the Forte for Java 4 product CD or by typing the following:

```
$ cd ffj-download-directory
$ chmod a+x ffj_me_linux_en.bin
$ ffj_me_linux_en.bin
```

Note – If you encounter errors at any point during the Mobile Edition IDE installation, refer to Chapter 6 for some troubleshooting hints.

4. In the Welcome screen, click Next.

5. Read the license agreement carefully. To proceed, accept the terms of the license agreement, and click Next.

You must agree to the license to continue with the installation.

InstallShield attempts to locate a compatible Java 2 SDK v. 1.3.1 or v. 1.4.0 on your system.

6. Set the location of compatible Java 2 SDK software and click Next.

The Mobile Edition IDE requires local or network access to either v. 1.3.1 software or v. 1.4.0 of the Java 2 SDK software. Specify which installed software to use by doing one of the following:

- Accept the default location.
- Select another location from the list of found Java 2 SDK software.
- Click Browse to specify a different location.

Click Next after you have set the Java 2 SDK location.

7. **Accept the default installation directory or click Browse to install the IDE in a different directory. Click Next to continue.**

Note – The installation directory name cannot contain any spaces and it must be an empty or new directory.

8. **Click Next to confirm the features listed in the Select Features dialog box.**

The following features are required for installation:

- Core Platform and Modules
- J2ME Wireless Toolkit 1.0.3

9. **Confirm your installation choices in the installation summary dialog box and click Next.**

InstallShield installs the Forte for Java 4 components you have selected.

10. **Click Finish to complete the installation.**

11. **Review the Release Notes file for important information regarding the release.**

You can access the Release Notes from the product CD or from

<http://forte.sun.com/ffj/documentation/index.html>.

12. **Continue to Chapter 4 for information on setting up the Mobile Edition IDE.**

Installation in the Solaris Operating Environments

You can install the Mobile Edition IDE in a supported Solaris operating environment with a `.bin` file.

Note – You must have the J2SE, v. 1.3.1 platform or J2SE, v. 1.4.0 platform installed on your system before installing the Mobile Edition IDE. The recommended option is the J2SE, v. 1.4.0 platform with the Mobile Edition IDE. Read Chapter 2 for instructions on installing the software.

1. **If you have not already done so, download the `ffj_me_solsparc_en.bin` installer file from**

<http://www.sun.com/software/sundev/jde/buy/index.html> **or locate it on the Forte for Java 4 product CD.**

2. Set the DISPLAY environment variable to display to your local system.

If you are installing to your local system, the DISPLAY environment variable should be set to :0.0. If you are using a superuser (root) account or are doing a remote installation, set your superuser session's DISPLAY environment variable to display to your local system.

For example, to set the variable from a root account running C-shell, type the following in your superuser session command prompt:

```
# setenv DISPLAY your-local-system:0.0
```

3. Set the execute permission on the ffj_me_solsparc_en.bin file and execute it by double-clicking the file from the Forte for Java 4 product CD or by typing the following:

```
$ cd ffj-download-directory
$ chmod a+x ffj_me_solsparc_en.bin
$ ffj_me_solsparc_en.bin
```

Note – If you encounter errors at any point during the Mobile Edition IDE installation, refer to Chapter 6 for some troubleshooting hints.

4. In the InstallShield's Welcome screen, click Next.

5. Read the license agreement carefully. To proceed, accept the terms of the license agreement, and click Next.

You must agree to the license to continue with the installation.

InstallShield attempts to locate a compatible Java 2 SDK v. 1.3.1 or v. 1.4.0 on your system.

6. Set the location of compatible Java 2 SDK software and click Next.

The Forte for Java 4 IDE requires local or network access to either v. 1.3.1 or v. 1.4.0 of the Java 2 SDK software. Specify which installed Java 2 SDK software to use by doing one of the following:

- Accept the default location.
- Select another location from the list of found Java 2 SDK software.
- Click Browse to specify a different location.

Click Next after you have set the Java 2 SDK location.

7. **Accept the default installation folder or click Browse to install the IDE in a different directory. Click Next to continue.**

Note – The installation directory name cannot contain any spaces and it must be an empty or new directory.

8. **Click Next to confirm the features listed in the Select Features dialog box.**

The following features are required for installation:

- Core Platform and Modules
- J2ME Wireless Toolkit 1.0.3

9. **Confirm your installation choices in the installation summary pane and click Next.**

InstallShield installs the Forte for Java 4 components you selected.

10. **Click Finish to complete the installation.**

11. **Review the Release Notes file for important information regarding the release.**

You can access the Release Notes from the product CD or from

<http://forte.sun.com/ffj/documentation/index.html>.

12. **Continue to Chapter 4 for information on setting up the Mobile Edition IDE.**

Installing the IDE Using the Command-line Options

If you prefer to install the Mobile Edition IDE using the command line, use the following steps to guide you. You need to create a file called *installer.sp* and add to the file the command-line options you want to use to install the IDE.

1. **If you have not already done so, download the installer file for your supported platform from**

<http://www.sun.com/software/sundev/jde/buy/index.html> **or locate the file on the Forte for Java 4 product CD.**

2. Create an *installer.sp* file in the *ffj-download-directory*.

The installer does not accept command-line options directly from the command line, so you will need to create the *installer.sp* file. The IDE installer will read the command-line options you include in this file.

On a Microsoft Windows system, create a file called *ffj_me_win32_en.sp* and place the file in the *ffj-download-directory*.

For the Solaris and Linux environments, name the file *ffj_me_solsparc_en.sp* and *ffj_me_linux_en.sp*, respectively.

3. Determine the command-line options and corresponding values you want to use, and include them in the *installer.sp* file.

The following table lists the different command-line options and their default values, if any. You can use either the long or short name for each option.

TABLE 3-1 Forte for Java 4 Command-line Installation Options

Installation Options	Description
<i>forte</i> home= <i>ffj-install-dir</i> fh= <i>ffj-install-dir</i>	Specifies the directory into which you want the IDE installed. This is a mandatory command-line parameter for the <i>-silent</i> mode.
<i>jdk</i> home= <i>jdkhome-dir</i> jh= <i>jdkhome-dir</i>	Sets the location of the valid Java 2 SDK version to use with the IDE. The installer will configure the IDE to use this Java 2 SDK software. This is a mandatory command-line parameter for the <i>-silent</i> mode.
<i>-silent</i>	Specify this option on the command line and not in the <i>installer.sp</i> file. If not specified, the Installshield wizard will appear. If specified, any error messages will be displayed on the command window from which the installer was invoked.

For example, on a Microsoft Windows system, the *ffj_me_win32_en.sp* might have the following contents:

```
fh=C:\forte4j
jh=C:\j2sdk1.4.0
```

On a Solaris environment, the *ffj_me_solsparc_en.sp* might have the following contents:

```
fh=/yourserver/forte4j
jh=/usr/j2se
```

4. Execute the installer from the command line.

For example, on a Microsoft Windows system, type the following in a command prompt window:

```
C:\>cd ffj-download-directory  
C:\>ffj-download-directory> ffj_me_win32_en.exe -silent
```

In a Solaris environment, type the following in a terminal window, for example:

```
$ cd ffj-download-directory  
$ ffj_ce_solsparc_en.bin -silent
```

The installer displays the following on the command prompt or terminal window:

```
InstallShield Wizard  
  
Initializing InstallShield Wizard...  
  
Searching for Java(tm) Virtual Machine...  
.....  
Running InstallShield Wizard...
```

If there are any errors encountered, messages are displayed on the command prompt window.

Note – If you encounter errors at any point during the Mobile Edition IDE installation, refer to Chapter 6 for some troubleshooting hints.

5. Continue to Chapter 4 for information on setting up the Mobile Edition IDE.

Finding Installation Subdirectories

After you have installed the Mobile Edition IDE, the subdirectories listed in TABLE 3-2 can be found under *ffj-install-dir*, your Forte for Java 4 installation directory.

TABLE 3-2 Forte for Java Installation Subdirectories

Subdirectory Name	Description
<code>/_uninst</code>	Contains the files used to uninstall the IDE.
<code>/bin</code>	Includes the Forte for Java startup scripts (as well as the <code>ide.cfg</code> file in Microsoft Windows installations).
<code>/docs</code>	Contains miscellaneous documentation.
<code>/emulator</code>	Contains the J2ME Wireless Toolkit emulator.
<code>/lib</code>	Contains the JAR files that make up the IDE's core implementation and the open APIs.
<code>/modules</code>	Stores Forte for Java modules as JAR files.
<code>/sources</code>	Contains sources for libraries that might be redistributed with user applications.
<code>/system</code>	Includes files and directories used by the IDE for special purposes. Go to your individual <i>ffj-user-dir/system</i> directory to get the <code>ide.log</code> , which provides information useful when requesting technical support, and to view <code>project.basic</code> and <code>project.last</code> files, which contain information on Forte for Java projects. In a Microsoft Windows system, this <i>ffj-user-dir/system</i> directory contains the project-specific files under <code>project.basic_hidden</code> and <code>project.last</code> files.
<code>update_tracking.xml</code>	Contains information used by the AutoUpdate Center.

Configuring the Palm OS Emulator

If you want to run the Palm OS Emulator that is included with the J2ME Wireless Toolkit, you should install the emulator before installing the Mobile Edition IDE. You can download the emulator from

http://www.palmos.com/dev/tech/tools/emulator/.

You must first configure the emulator as follows:

1. Redirect NetLib calls to the host's TCP/IP.

For certain functions like debugging and Internet connectivity to work, you must set NetLib API calls to be redirected from the Palm OS Emulator to use your computer's TCP/IP.

a. Run the Palm OS Emulator and right-click the emulator.

A menu appears.

b. Select Settings → Properties...

The Properties dialog appears.

c. Check the Redirect NetLib calls to host TCP/IP box, and click OK.

The Properties dialog disappears.

d. Right-click the emulator and select Save.

Your changes are saved.

2. Disable debugging.

The Palm OS Emulator allows various items to be debugged while the application executes. However, for the Palm OS Emulator to work with the Mobile Edition IDE, debugging must be disabled altogether.

a. Run the Palm OS Emulator, and right-click the emulator.

A menu appears.

b. Select Settings → Debugging...

The Debug Options dialog appears.

c. Uncheck all the boxes and click OK.

The Debug Options dialog disappears.

d. Right-click the emulator and select Save.

Your changes are saved.

3. Set the Palm OS Emulator location in the Mobile Edition IDE.

The first time you run an application using the Palm OS Emulator through the Mobile Edition IDE, a dialog appears, asking you for the Palm OS Emulator location. After you set the location, the dialog will not appear again when you run MIDP applications using the emulator.

Uninstalling the Mobile Edition IDE

An uninstaller wizard is available to assist you in the uninstallation of the Mobile Edition IDE. Follow these steps to uninstall your copy of the Mobile Edition IDE:

1. Start the uninstaller from the *ffj-install-dir/_uninst* directory.

- In a supported Solaris operating environment or Red Hat Linux environment, ensure that your `DISPLAY` environment variable is defined correctly, and then type:

```
$ java -jar uninstall.jar
```

- On a Microsoft Windows system, execute the `uninstaller.exe` file located in the *ffj-install-dir/_uninst* directory or use the Add/Remove Program utility in the Control Panel.

The uninstaller's Welcome screen appears.

2. Click Next from the Welcome screen.

A list of Forte for Java components is displayed.

3. Select the components you want to uninstall and click Next.

4. Click Next to confirm the components to be uninstalled.

The uninstaller wizard proceeds with the uninstallation of the IDE.

5. Click Finish to close the uninstaller wizard.

Using Your Newly Installed Mobile Edition IDE

After you have successfully installed the Mobile Edition IDE, use the information in this chapter to launch, set up and register your Mobile Edition IDE. Details about the available command-line switch options are also included.

Setting up Your Mobile Edition IDE

When you first start up the Mobile Edition IDE, you are prompted to:

- Register your software
- Specify the user directory to use with the IDE
- Indicate whether you would like automatic update checking

Use the following steps to guide you through setup of your initial IDE environment:

1. Start the Mobile Edition IDE.

- For the supported Solaris operating environments or a Red Hat Linux environment, type:

```
$ cd fff-install-dir/bin
$ runide.sh
```

- For a Microsoft Windows system, double-click the Forte for Java 4.0 ME icon created on your desktop or click the Start menu and choose Forte for Java 4.0 ME → Forte for Java. Alternatively, from a command prompt window, type:

```
C:\>cd fff-install-dir\bin
C:\>runidew.exe
```

If this is the first time you are installing this version of the Mobile Edition IDE on a Microsoft Windows system, you are prompted for the user directory.

2. On a Microsoft Windows system, type the name of the directory where you want the IDE to store your settings and project information, and click OK.

Ensure that the directory you choose is in a place that is always accessible to your system. If you have different versions of the IDE, use a different user directory for each IDE version. This directory should be different than the directory where the IDE is installed.

The recommended name for the user directory in a Microsoft Windows system is *drive:fully-qualified-path\ffjuser40me*. This name is entered the `UserDir` value of the `Software\SunMicrosystems, Inc.\Forte for Java` key in the `HKEY_CURRENT_USER` registry. This value is not deleted when the IDE is uninstalled. The name will be reused by future installations of this version of the IDE if the `UserDir` value is not explicitly deleted from the Microsoft Windows Registry. Refer to some troubleshooting information in Chapter 6, if you want to use a different location for your user directory.

The Settings Import wizard appears.

3. In the Settings Import wizard, specify whether you want to import your settings from a previous version of the IDE.

Note – Because the Community and Enterprise Edition IDEs include several modules not supported by Mobile Edition IDE, Sun does not recommend using previous settings from the Community and Enterprise Edition IDEs with the Mobile Edition IDE.

- If you do not want to import your previous user settings, select No and click Finish to exit the wizard.

For supported Solaris or Red Hat Linux environments, the default user directory is created and named `$HOME/ffjuser40me`.

On a Microsoft Windows system, the user directory is created in the previous step or set to the same user directory you specified in a previous installation of this version of the IDE if you did not remove the previous `UserDir` value in the registry.

- If you want to import your previous user settings, select Yes and click Next.

You are prompted for the location of the user directory for the previously installed IDE.

i. Specify the path or click Browse to locate the directory. Click Next.

The IDE imports the settings.

ii. Click Finish to exit the wizard.

The IDE continues with the startup and the Setup wizard appears.

4. **If you are behind a firewall, specify the proxy server information.**

5. **Select the window mode, and click Next to continue with the setup.**

6. **Click Finish to continue with IDE startup, or click Next for additional setup options.**

If you click Finish, the IDE continues with the startup and several windows appear. The registration wizard appears. Continue with Step 9 below.

Otherwise, if you click Next, the Module Installation pane appears.

7. **In the Module Installation pane, specify which module you want enabled or disabled. Then, click Next to continue with the setup, or Finish to continue with the IDE startup.**

By default, all the modules installed with the IDE are enabled. Disable a module by doing the following:

a. **Click on the Enabled property value for the module.**

b. **Click a second time and select False to disable the module.**

If you click Finish, the IDE continues with the startup and several windows appear. The registration wizard appears. Continue with Step 9 below.

If you click Next, the Update Center pane appears.

8. **From the Update Center pane, specify how often you want the IDE to automatically check the Update Center. Select the Forte for Java Update Center as the update center from which you want to obtain the updates for modules of your choice.**

Click Finish to continue with the IDE startup. Several windows appear and the registration wizard appears.

9. **From the Registration wizard, select your preferred method of registration.**

- Choose “Register using the web” to register your Mobile Edition IDE software using the web, or to edit your existing registration information if you have changed Forte for Java IDE editions.

The registration page appears on your web browser and you can proceed to register the product, create a new Forte for Java Developer Resources account, or update your account.

Registering your Mobile Edition IDE through the web enables you to:

- Use the Update Center to download and install new modules and updates specific to your environment
- Subscribe to the Early Access Program (<http://forte.sun.com/eap>) and receive new, nonpublic builds of the IDE, as well as preview releases of Forte for Java modules, patches, and bug fixes
- Receive product announcements, if desired

- Use the same user name and password to access the Update Center, the Early Access Program, and the Sun Download Center (from which you might have downloaded the Mobile Edition IDE)

If you already registered with the Forte for Java Developer Resources, Sun Download Center, or `mysun.sun.com`, you can use the same user name and password, but you are prompted for additional information.

Note – To maintain your Forte for Java Developer Resources account using the web, choose Help → Registration Wizard from the main window of the IDE. Or, go to <http://forte.sun.com/services/registration/accountmaintenance.html>

- Register by FAX or mail.

This method of registration registers only your Mobile Edition IDE.

If you decide to register with Forte for Java Developer Resources at a later time, choose Help → Registration Wizard from the main window of the IDE.

10. From the Automatic Update Check dialog box, specify whether you want to check for new IDE updates.

- If you reply Yes, the Update Center wizard appears. Follow the instructions on the wizard to complete the setup for automatic update checking.
- If you reply No, you can start the Update Center wizard at a later time by choosing Tools → Update Center from the main window of the IDE.

Using the Startup Command-Line Options

The IDE startup scripts for all supported platforms can be run with additional options. These command-line options are specified with flags.

In a supported Linux or Solaris environments, for example, you might type:

```
# runide.sh -help
```

On a supported Microsoft Windows system, for example, you might type:

```
C:\>runidew.exe -help
```

Alternatively, you can put the options in the *ffj-install-dir/bin/ide.cfg* file. The IDE reads this file before parsing any command-line options. You can break options into multiple lines in *ide.cfg*.

TABLE 4-1 lists the startup command-line options for all supported platforms.

TABLE 4-1 Command-Line Switch Options

Switch Options	Description
-h	Prints usage.
-help	
-jdkhome <i>jdk-home-dir</i>	Selects an SDK other than the default SDK. On Microsoft Windows, by default, the IDE checks the registry and selects the latest SDK available.
-hotspot	Explicitly specifies the Java virtual machine (JVM™) variant to be used.
-server	
-client	The terms “Java virtual machine” and “JVM” mean a virtual machine for the Java platform.
-classic	
-native	
-green	
-cp:p <i>additional-classpath</i>	Prepends the specified class path onto the IDE’s class path.
-cp:a <i>additional-classpath</i>	Appends the specified class path to the IDE’s class path.
-ui <i>UI_class-name</i>	Selects a given class as the IDE’s look and feel.
-fontsize <i>size</i>	Sets the font size, expressed in points, in the IDE’s user interface.
-single	Launches the IDE from <i>ffj-install-dir</i> instead of from your <i>ffj-user-dir</i> directory. Runs the Mobile Edition IDE in single-user mode. The default mode is multiuser.
-userdir <i>ffj-user-dir</i>	Explicitly specifies the <i>ffj-user-dir</i> directory (the location where your user settings are stored). If this option is not used in Solaris or Linux operating environments, the location is <i>user-home-dir/ffjuser40me</i> . If this option is not used in Microsoft Windows NT, the user is prompted at the initial startup of the IDE for the <i>ffj-user-dir</i> directory to use. On Microsoft Windows systems, this value is stored in the registry for later use.

TABLE 4-1 Command-Line Switch Options (*Continued*)

Switch Options	Description
<code>-Jvm-flags</code>	Passes specified flags directly to the JVM.
<code>-J-Xverify:none</code>	Tells the JVM not to verify the correctness of the bytecode for faster startup. Bytecode verification is a slow process. Whenever a class is loaded, the JVM scans all bytecode and detects an invalid byte sequence even if a method is never called. Also, the JVM loads certain classes referred to in method signatures and in the method body, even though they are not called during startup. However, setting this flag removes some of the protection that the Java language gives you. (Refer to the JVM documentation for more information.)
<code>-J-Xms24m</code>	Sets up the initial heap size of the JVM to 24 MB. This switch prevents the JVM from extending the heap size during startup, which enables faster startup time for the IDE.

In the Solaris and Linux environments, users can modify startup scripts to suit their needs.

Validating Your Mobile Edition Installation

You can test your installation quickly by executing one of the sample applications included with the Mobile Edition IDE.

1. **Open the Explorer and expand the sample directory** (`ffj-user-dir/sampledir`).
2. **Right-click on the games MIDlet suite and choose Execute.**

If the Mobile Editions is installed correctly, the default emulator appears with a menu of games on the screen.

Where to Go From Here

This chapter contains information about available documentation resources and how to obtain IDE updates from the Forte for Java Update Center.

Updating Modules With the Update Center

Once you have Forte for Java 4, Mobile Edition installed in your system, use the Update Center to add new IDE modules or update the existing IDE modules already installed in your system. Use the following steps to update your IDE.

1. Start the IDE.

See Chapter 4 for instructions on how to start the IDE.

2. Select the Update Center from the IDE's Welcome screen or choose Tools → Update Center from the main window of the IDE.

The Update Center wizard appears.

3. Select Forte for Java Update Center as the Update Center and deselect NetBeans Update Center.

4. Click the Proxy Configuration to set your proxy configuration, if needed.

The Proxy Configuration dialog box appears. Modify the values as needed and click OK to return to the Update Center wizard.

5. Click Next and type your Forte for Java Update Center login name and password.

See Step 9 in “Setting up Your Mobile Edition IDE” on page 37, for information on registering and creating a login name and password.

The Update Center displays the modules that are available to you.

6. **Select individual modules or select all by clicking the >> button. Use the < button to remove those versions that are not appropriate to your platform.**
7. **Click Next and follow the Update Center installation procedure.**

The IDE installs the selected modules, then restarts itself.

For more information about how the Update Center works and Sun's privacy policy regarding your personal information, see the Developer Resources Site FAQs at <http://forte.sun.com/ffj/resources/sitefaq.html>.

Other Documentation Resources

You can access the following resources to learn more about the different features of the IDE and how to use them:

- The online help is available by accessing the Help menu from the main window of the IDE. You can view the available help sets by choosing Help Sets from the Help menu.
- A set of programming books, tutorials, and code examples are available at <http://forte.sun.com/ffj/documentation/index.html>.
- The Forte for Java Developer Resources site at <http://forte.sun.com/ffj/index.html> also contains a wealth of information and support resources, including Forte for Java news, technical articles, a support knowledge base, forums, and more.

You can also access this site from the IDE by choosing Help → Web Resources from the main window of the IDE.

Troubleshooting

This chapter provides some troubleshooting hints to help you during the installation, start up, or configuration of the Mobile Edition IDE.

Using the `solaris_patch_installer`

TABLE 6-1 describes some errors you might encounter during installation of Solaris patches using the `solaris_patch_installer` script.

TABLE 6-1 `solaris_patch_installer` Errors

Problem	Solution
The <code>solaris_patch_installer</code> aborted while attempting to apply one of the required Solaris patches on your system.	<ol style="list-style-type: none">1. Write down the patchID of the last patch that the <code>solaris_patch_installer</code> tried to install.2. Obtain a newer revision of that patch from http://sunsolve.sun.com, if one is available.3. Install the new revision on your system using the <code>patchadd</code> utility. (If you are unfamiliar with or unsure about installing Solaris packages or the J2SE, v. 1.4.0 platform on your Solaris environment, contact your Solaris system administrator for assistance.)4. Run the <code>solaris_patch_installer</code> again to ensure you have all the required Solaris 8 patches on your system.

TABLE 6-1 solaris_patch_installer Errors (Continued)

Problem	Solution
<p>Receipt of an error message similar to the following, after running the <code>solaris_patch_installer</code> on a newly installed Solaris 8 (update 7) environment:</p> <pre># ./solaris_patch_installer Solaris Patch Installer for J2SE, v.1.4.0 Installing 109147-14... successfully installed Installing 108434-06... ... Installing 108528-13... attempting to patch a package that is not installed Installing 108652-51... successfully installed Installing 108921-13... already applied Installing 108940-40... successfully installed Installing 108773-12... pkgadd failed Cannot continue patch installation. For more details, please look at /var/tmp/solaris_patch_installer.log</pre>	<p>Run the <code>solaris_patch_installer</code> script a second time. If you continue to have problems, contact your Solaris system administrator.</p>

Installing the Mobile Edition IDE

TABLE 6-2 describes some errors you might encounter during the Mobile Edition IDE installation.

TABLE 6-2 Mobile Edition IDE Installation Errors

Problem	Solution
<p>Receipt of the following error message while installing the Mobile Edition IDE:</p> <pre>Error writing file = There may not be enough temporary disk space. Try using -is:tempdir to use a temporary directory on a partition with more disk space</pre>	<p>Start the installer with the <code>-is:tempdir</code> command-line option, in order to specify a directory on a disk with more free space.</p> <p>For example, in a Solaris operating environment, you might type the following at the command prompt:</p> <pre>\$ ffj_me_solsparc_en.bin -is:tempdir temporary- directory</pre>

TABLE 6-2 Mobile Edition IDE Installation Errors (*Continued*)

Problem	Solution
The Forte for Java 4 installer fails and displays a message that there is not enough available disk space to use for installation. But, the filesystem you specified to use for installing the IDE has plenty of available disk space.	<p>The filesystem you have specified may be symbolically linked to another filesystem whose large amount of disk space is not recognized. For example, in a Solaris environment, <code>/export/home</code> has 2 GB of space and <code>/</code> has 100 MB. The <code>/opt</code> directory is symbolically linked to <code>/export/home</code>. If you specified <code>/opt/forte4j</code> as the IDE installation directory, the Forte for Java 4 installer does not recognize the symbolic link to <code>/export/home</code>, which has 2 GB of available disk space. The installer only recognizes the <code>/</code> directory, which is the target directory for <code>/opt</code> and only has 100 MB.</p> <p>To correct the problem, specify the IDE's installer to directly use the filesystem with the larger available disk space. For the above example, specify the <code>/export/home</code> as the installation directory.</p>
Receipt of the following error message while installing the Mobile Edition IDE: Error: Could not find JVM	<p>Start the installer with the <code>-is:javahome</code> command-line option, in order to specify a directory on a disk with more free space.</p> <p>For example, in a Solaris operating environment, type the following at the command prompt:</p> <pre>\$ ffj_me_solsparc_en.bin -is:javahome javahome</pre>
(Solaris or Linux environments only) The Forte for Java 4 installer looks like it is hung, after it was started. No messages are displayed.	<p>You may not have set the <code>DISPLAY</code> environment variable correctly. If you are installing on your local system, the <code>DISPLAY</code> environment variable should be set to <code>:0.0</code>. If you are using a superuser (root) account or doing a remote installation, set your <code>DISPLAY</code> environment variable to your local system.</p> <p>For example, to set the <code>DISPLAY</code> variable from a root account that is using a C-shell, type the following in the command window you used to log into the root account:</p> <pre>setenv DISPLAY your-local-host:0.0.</pre> <p>Run the installer again from the same command window.</p>
The Forte for Java 4 IDE installer exits without installing the product. No messages are displayed.	<p>These are the possible causes and solutions:</p> <ul style="list-style-type: none">• The file you have downloaded from the Forte for Java 4 product download page is not complete. Download the file again and check that the size of the downloaded file is the same as the file size specified on the product download page. Run the IDE installer again.• You have specified an invalid command-line parameter in the <code>installer.sp</code> file. Check the file and correct any incorrect command-line parameter setting. Run the IDE installer again.
The <code>-is:tempdir</code> commandline parameter is not working.	<p>Make sure that you are using the correct syntax for the command-line parameter for the installer. For example, on a Solaris environment, the syntax is as follows:</p> <pre>ffj_me_solsparc_en.bin -is:tempdir temporary-directory</pre>

Starting Up the Mobile Edition IDE

TABLE 6-3 describes some errors you might receive during startup and configuration of the newly installed Mobile Edition IDE software.

TABLE 6-3 Mobile Edition IDE Startup and Configuration Errors

Problem	Solution
Receipt of an error message similar to the following during the IDE startup in asupported Solaris environment: Error: No J2SE was found at /usr/j2se/bin/java ERROR: The following required 5.8 patches have not been installed on system "myserver": 106950-16 106327-11 106541-17 NOTE: You can download and install the J2SE[tm] and related Solaris[tm] patches from http://access1.sun.com/forte/ . Warning:Current runtime environment does not satisfy minimum requirements.	Install the J2SE, v. 1.4.0 platform on your system. For a Solaris 8 operating environment, include any necessary patches. Refer to Chapter 2 for more information on installing this software on your system.
Receipt of the following error message after starting the IDE: Error: Unable to load java.dll	Make sure there is no space in the name of the directory in which you have installed the J2SE, v. 1.3.1 or v. 1.4.0 platform.

TABLE 6-3 Mobile Edition IDE Startup and Configuration Errors (*Continued*)

Problem	Solution
<p>Mobile Edition IDE is not pointing to the J2SE, v. 1.4.0 platform you had specified during the IDE installation and you receive an error message similar to the following: ERROR: The J2SE[tm] 1.2.1 found at /usr/java1.2/bin/java cannot be used by the IDE. J2SE[tm] 1.4 is recommended. NOTE: You can download and install the J2SE[tm] and related Solaris[tm] patches from http://access1.sun.com/forte/. Warning:Current runtime environment does not satisfy minimum requirements.</p>	<p>Check the Java environment variables already set prior to starting the IDE and unset them. The values of the \$JAVA_PATH and \$JDK_HOME environment variables override the value of the J2SE SDK path you specified during the IDE installation. You need to unset these environment variables or use the -jdkhome command-line option when starting the IDE.</p>
<p>The user directory is created in the wrong location in a Microsoft Windows system.</p>	<p>If you have previously installed any edition of the Mobile Edition IDE or Forte for Java IDE in a Windows environment, the location of the user directory is recorded in the Microsoft Windows Registry under HKEY_CURRENT_USER/Software/Sun Microsystems, Inc./Forte for Java/ME/4.0. This value is not deleted when you uninstall the IDE. Therefore, when you install another version of the Forte for Java or Mobile Edition IDE, the user directory specified in a previous installation is reused. If you want to use a different location for the user directory, do the following:</p> <ol style="list-style-type: none">1. Uninstall the Mobile Edition IDE.2. In a command window, type regedit to start the Microsoft Windows Registry editor.3. From the Registry editor, expand the HKEY_CURRENT_USER registry and the keys for Software/Sun Microsystems, Inc./Forte for Java/ME/4.04. Right-click the UserDir value and choose Delete from the contextual menu.5. Install the Mobile Edition IDE again.6. After installation, start the Mobile Edition IDE and when you are prompted, specify a new location for the user directory.

Configuring an External Compiler

TABLE 6-4 describes a problem you might encounter when compiling MIDlets or MIDlet suites.

TABLE 6-4 Mobile Edition IDE Compilation Errors

Problem	Solution
Receipt of compilation errors after switching to an external compiler or updating the internal compiler.	<p>The Java Wireless Toolkit v.1.0.3 preverifier does not support JDK 1.4.0 classes. If you are using the J2SE, v.1.4.0 platform, the default for the Preverify compiler is an internal compiler. If you want to use an external compiler or download an updated internal compiler, you need to configure the Preverify Compiler properties within the Mobile Edition to use the external compiler.</p> <p>To configure the Preverify compiler:</p> <ol style="list-style-type: none">1. Choose Tools → Options → Building → Compiler Types → Preverify Compiler. The properties for the Preverify Compiler are listed on the right.2. Click in the Java Compiler property field and select External Compilation from the menu.3. Click on the ellipsis(...) button in the External Compiler property field and add the switch <code>-target 1.1</code> to the Process field. The syntax for the External Compiler property is: <code>{jdk.home}{/}bin{/}javac -target 1.1 {debug info} {deprecation} {optimize} {outputdir} {encoding} {source opt} {bootclasspath.opt} {bootclasspath} -classpath {filesystems}{:} {classpath} {files}.</code>4. Click OK to finish.

Solaris Patch Identifications and Descriptions

This appendix provides the Solaris™ patch identification numbers and descriptions of the patches included with the Java™ 2 Platform, Standard Edition 1.4.0 (J2SE™, v.1.4.0 platform) installation.

TABLE A-1 lists the Solaris patch identification numbers and description for the Solaris™ 8 *SPARC Platform Edition*.

TABLE A-1 Patch Identifications and Descriptions for Solaris 8 *SPARC Platform Edition*

Patch Identification Number	Patch Description
109147-14	Solaris 8 interprocedural optimizer
108434-06	Solaris 8 libC sparc
108435-06	V9 libC
111293-04	/usr/lib/libdevinfo.so.1
112334-01	/usr/include/sys/archsystem.h
111310-01	/usr/lib/libdhcagent.so.1
108528-13	SIGEMT
108652-51	Xserver
108921-13	CDE 1.4 dtwm
108940-40	Motif 2.1
108773-12	X input methods
109607-01	/usr/include/iso/stdlib_iso.h
112003-03	Fontset
108989-02	Accounting
108827-17	Threads

